Magnesia 16

Nucleic Acid Extraction Kit

User's Manual

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IVD CE ***For in vitro diagnostics with Magnesia™ Kits, Bosphore™ Kits and Montania™ 483 System***

Precautions

I) Handling Requirements

- *Do not use a kit after its expiration date has passed.*
- *Some reagents contain the hazardous compounds guanidine thiocyanate or guanidine hydrochloride . Do not let these reagents touch your skin, eyes, or mucous membranes. If contact does occur, wash the affected area immediately with large amounts of water. If you spill the reagents, dilute the spill with water before wiping it up.*
- *Do not allow reagents containing guanidine thiocyanate to mix with sodium hypochlorite solution or strong acids. This mixture can produce a highly toxic gas.*

II) Laboratory Procedures

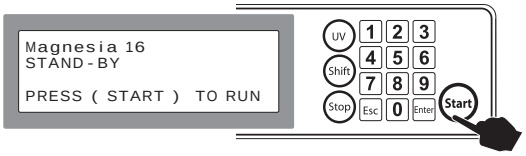
- *Handle all samples and the resulting waste as if potentially infectious, using safe laboratory procedures. As the sensitivity and titer of potential pathogens in the sample material varies, the operator has to optimize pathogen inactivation by the Lysis Buffer or take appropriate measures according to local safety regulations. Anatolia Inc. does not warrant that samples treated with Lysis Buffer are completely inactivated and non-infectious. After sample processing is completed, remove and autoclave all disposable plastics, if you worked with potentially infectious sample material.*
- *Do not eat, drink or smoke in the laboratory work area.*
- *Do not pipette by mouth.*
- *Wear protective disposable gloves, laboratory coats and eye protection when handling samples and kit reagents.*
- *Do not use sharp or pointed objects when working with the reagent cartridge, in order to prevent damage of the sealing foil and loss of reagent.*
- *Do not contaminate the reagents with bacteria, virus, or ribonuclease. Use disposable pipettes and RNase-free pipette tips only to remove aliquots from reagent bottles. Use the general precautions described in the literature.*
- *Wash hands thoroughly after handling samples and test reagents.*

III) Waste Handling

- *Discard unused reagents and waste in accordance with country, federal,state and local regulations.*

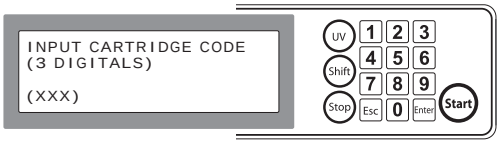
How to use kit

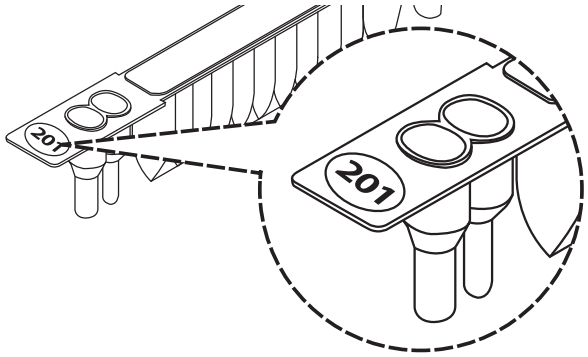
Install all necessary accessories and apply your specimen to Magnesia 16.



Press START

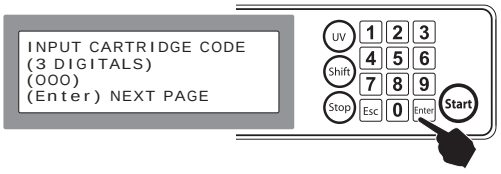
After press Start button, machine runs program of calibration, initialize to move all axis to original factory positions.





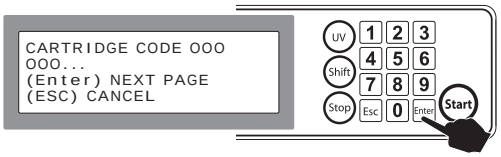
Input Cartridge Code to run protocol.
Cartridge Code is shown on your Reagent Cartridge and the cover of user manual.

Above CODE is for demostration purpose, please refer to the kit you purchase for real workshop.

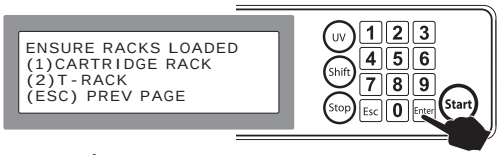


Confirm your input code again and press Enter to next page for sample volume selection.

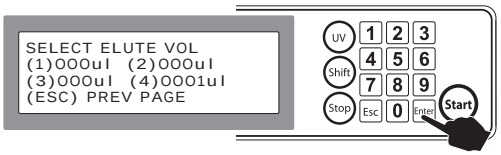
Select Sample Volume.



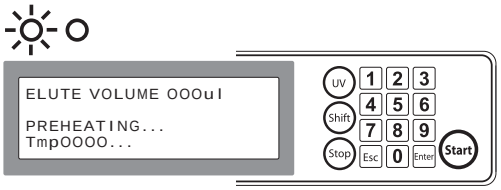
Confirm your input Sample Volume.
Press Enter for next page, Press ESC for back to Stand-By page.



At this step prepare racks to operation area.
After racks loaded then press Enter to next page for elution volume selection.

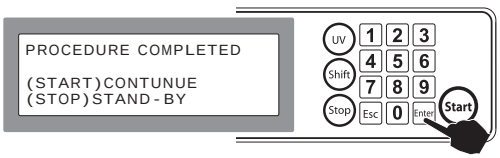


Select final elution volume.



Magnesia 16 in process of selected protocol at this step. The Green Indicat LCD lights up and Heating Block starts to heat up to 65°C for Lysis Step.

During Magnesia 16 is under program running, the "Magnesia" LCD lights up at all times.
DO NOT open the door at this moment, it causes emergent stop and you might lose your samples by machine interruption.



While program finished, a beep sound can be heard.
and green Indicate LCD light went out.

Magnesia 16 Genomic DNA Whole Blood Kit (Speedy installation)

For purification of genomic DNA from human whole blood by using Magnesia 16 of Anatolia Inc.

Cartridge Code 101

Cat.No.MGB400-01 // MGB400-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat.No. MGB400-01 Contents:

Pre-filled Cartrige Reagent	*36 pcs.*
Pipet Tip	*36 pcs.*
Tip Holder	*36 pcs.*
Sample Tube	*36 pcs.*
Elution (Eppendorf) Tube	*36 pcs.*

(Shelf Life 6 months)

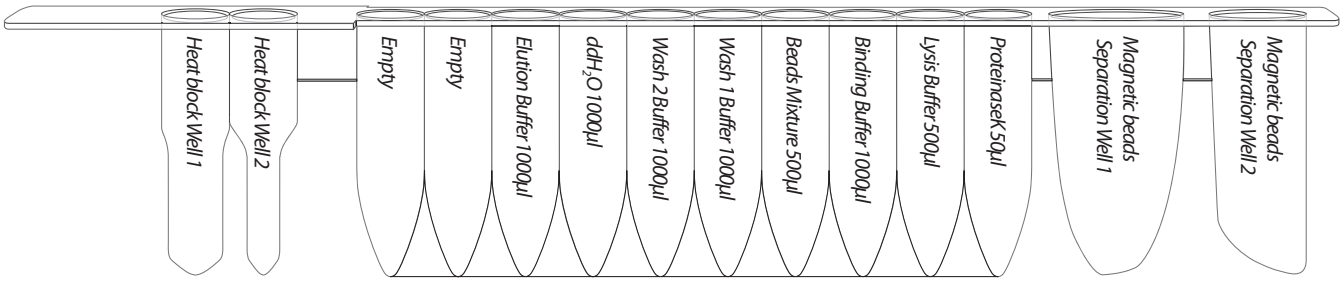
Cat.No. MGB400-02 Contents:

Pre-filled Cartrige Reagent	*96 pcs.*
Pipet Tip	*100 pcs.*
Tip Holder	*100 pcs.*
Sample Tube	*100 pcs.*
Elution (Eppendorf) Tube	*100 pcs.*

(Shelf Life 6 months)

Storage and Stability :
This kit should be stored at room temperature.

Cartrige Contents :



Description

Magnesia 16 Genomic DNA Whole Blood Kit has been designed for purification of total DNA (including genomic, mitochondrial and viral DNA) from whole blood, plasma, serum, buffy coat by using automated instrument of Magnesia 16. The method uses pre-filled cartridge contains proteinase K and a chaotropic salt, guanidine hydrochloride to lysis cells and degrade protein.
DNA in chaotropic salt binds to cellulose coated magnetic beads . After washing off the contaminants, the purified DNA is eluted by low salt elution buffer or water. Purified DNA of approximately 20-30 kb in length is suitable for PCR or other enzymatic reactions.

Applications

For general laboratory use. Using magnetic-particle technology to purified genomic DNA from fresh whole blood. The purified genomic DNA can be directly used for downstream application like quantitative PCR, restriction enzyme digestion, southern bloting.

Running Time: ***44 min****(sample volume :200 µl) //* ***57 min****(sample volume :400 µl)*

Whole Blood Protocol

Pipet 200/400µl of equilibrated whole blood sample to a microcentrifuge tube, then put the Sample Tube into hole 4 of T-Rack.

Buffy Coat modify Protocol

Anatolia Lysis Buffer:

150 mM NH_4Cl , 10mM $KHCO_3$, 0.1mM EDTA

Method 1 Anatolia Lysis protocol

1. *Take 600 ~ 700µl whole blood into 2ml microcentrifuge tube.*
   (Don't take more than 700µl whole blood sample; it will cause the leakage situation during process.)
2. *Add 1ml Anatolia Lysis Buffer and mix the buffer and whole blood sample by upside down.*
3. *Shake the mixture, 100rpm 5mins.*
4. *Centrifuge the mixture 13,000rpm 1 min.*
5. *Discard supernatant.*
6. *Repeat step 2 ~ step 5 to wash the sample again.*
7. *Add 400µl Anatolia Lysis Buffer and 20µl proteinase K to resuspend the pellet.*
8. *Follow Magnesia 16 process to apply the prepared sample and select 400µl sample volume.*

Method 2 Centrifuge protocol

1. *Take 2 ~ 5ml whole blood sample and centrifuge at 3,000rpm 10mins.*
2. *Use plastic drop to take white buffy coat layer in the middle of whole blood sample.*
3. *Move the buffy coat into new microcentrifuge tube.*
4. *Take 80 ~ 100µl buffy coat sample into Magnesia 16 sample tube and add Anatolia Lysis Buffer or PBS until 400µl then add 20µl proteinase K.*
5. *Follow Magnesia 16 process to apply the prepared sample and select 400µl sample volume.*

Note : We suggest to select 150 ~200µl elution buffer, it can get better elution efficiency in both of these methods. Normally the concentration is higher than 150ng/µl under such elution volume.

Magnesia 16 Genomic DNA Whole Blood Kit

For purification of genomic DNA from human whole blood by using Magnesia 16 of Anatolia Inc.

Cartridge Code 102

Cat.No.MGB400-03 // MGB-400-04

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat.No. MGB400-03 Contents:

Pre-filled Cartrige Reagent	36 pcs.
Pipet Tip	36 pcs.
Tip Holder	36 pcs.
Sample Tube	36 pcs.
Elution (Eppendorf) Tube	36 pcs.
Proteinase K(11mg)	2 pcs.
PK Storage Buffer	2 pcs.

(Shelf Life 12 month)

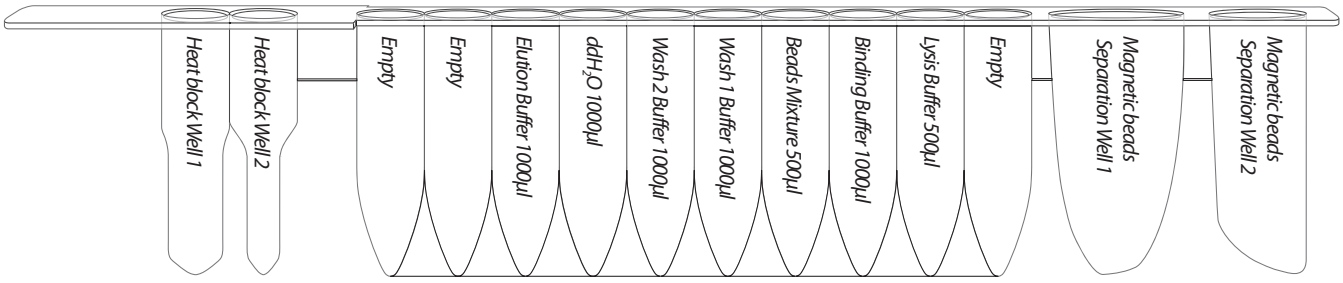
Cat.No. MGB400-04 Contents:

Pre-filled Cartrige Reagent	96 pcs.
Pipet Tip	100 pcs.
Tip Holder	100 pcs.
Sample Tube	100 pcs.
Elution (Eppendorf) Tube	100 pcs.
Proteinase K(11mg)	4 pcs.
PK Storage Buffer	4 pcs.

(Shelf Life 12 month)

Storage and Stability :
This kit should be stored at room temperature.

Cartrige Contents :



Description

Magnesia 16 Genomic DNA Whole Blood Kit has been designed for purification of total DNA (including genomic, mitochondrial and viral DNA) from whole blood, plasma, serum, buffy coat by using automated instrument of Magnesia 16 . The method uses pre-filled cartridge contains chaotropic salt, guanidine hydrochloride to lysis cells and degrade protein.
DNA in chaotropic salt binds to cellulose coated magnetic beads . After washing off the contaminants, the purified DNA is eluted by low salt elution buffer or water. Purified DNA of approximately 20-30 kb in length is suitable for PCR or other enzymatic reactions.

Applications

For general laboratory use. Using magnetic-particle technology to purified genomic DNA from fresh whole blood. The purified genomic DNA can be directly used for downstream application like quantitative PCR, restriction enzyme digestion, southern bloting.

Running Time: 44 min(sample volume :200 µl) // **57 min**(sample volume :400 µl)

Preparation before using

1. Add 1.1ml PK Storage Buffer into the tube of Proteinase K and mix by vortex.

* Store prepared Proteinase K(10mg/ml) at -20^{0}C.

Whole Blood Protocol

1. Take a new Sample Tube and add 20µl Proteinase K (10mg/ml) to per 200µl of equilibrated whole blood sample . (40µl Proteinase K to 400µl whole blood).
2. Place the Sample Tube into hole 4 of T-Rack.

Buffy Coat modify Protocol

Anatolia Lysis Buffer:

150 mM NH_4Cl , 10mM $KHCO_3$, 0.1mM EDTA

Method 1 Anatolia Lysis protocol

1. Take 600 ~ 700µl whole blood into 2ml microcentrifuge tube. (Don't take more than 700µl whole blood sample; it will cause the leakage situation during process.)
2. Add 1ml Anatolia Lysis Buffer and mix the buffer and whole blood sample by upside down.
3. Shake the mixture, 100rpm 5mins.
4. Centrifuge the mixture 13,000rpm 1 min.
5. Discard supernatant.
6. Repeat step 2 ~ step 5 to wash the sample again.
7. Add 400µl Anatolia Lysis Buffer and 20µl proteinase K to resuspend the pellet.
8. Follow Magnesia 16 process to apply the prepared sample and select 400µl sample volume.

Method 2 Centrifuge protocol

1. Take 2 ~ 5ml whole blood sample and centrifuge at 3,000rpm 10mins.
2. Use plastic drop to take white buffy coat layer in the middle of whole blood sample.
3. Move the buffy coat into new microcentrifuge tube.
4. Take 80 ~ 100µl buffy coat sample into Magnesia 16 sample tube and add Anatolia Lysis Buffer or PBS until 400µl then add 20µl proteinase K.
5. Follow Magnesia 16 process to apply the prepared sample and select 400µl sample volume.

Note : We suggest to select 150 ~200µl elution buffer, it can get better elution efficiency in both of these methods. Normally the concentration is higher than 150ng/µl under such elution volume.

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Magnesia 16 Genomic DNA Large Volume Whole Blood Kit

For purification of genomic DNA from human whole blood by using Magnesia 16 of Anatolia Inc.

Cartridge Code 104

Cat.No.MGB1200

Kit Contents

Check that the following parts are included in addition to the main unit:

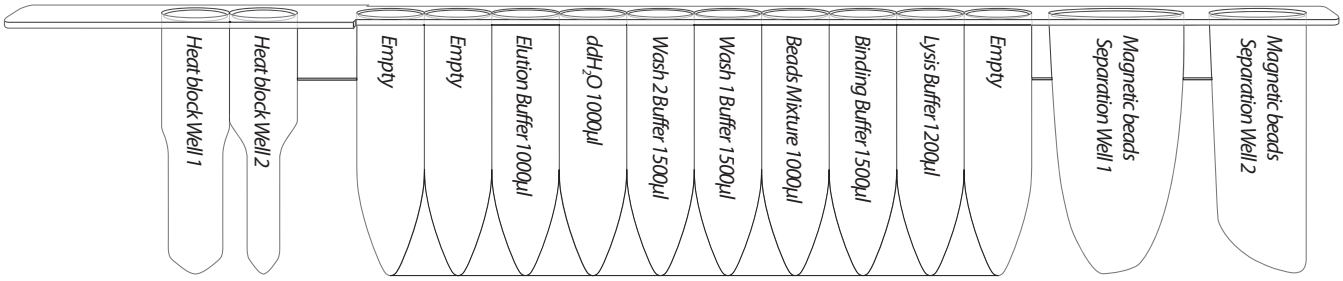
Cat.No. MGB1200 Contents:

Pre-filled Cartridge Reagent.....96 pcs.
Pipet Tip.....100 pcs.
Tip Holder.....100 pcs.
Sample Tube.....100 pcs.
Elution (Eppendorf) Tube.....100 pcs.
Proteinase K (11mg).....8pcs.
PK Storage Buffer (1.25ml).....8pcs.

Storage and Stability :

(1) The kit should be stored at room temperature.
(2) Proteinase K should be stored at -20^{0}C when mixing with PK Storage Buffer.

Cartrige Contents :



Description

Magnesia 16 Genomic DNA Large Volume Whole Blood kit is designed to extract genomic DNA from 1.2ml fresh whole blood via automatic machine, Magnesia 16. The kit contains all required reagent and labware for automated purification using magnetic-particle technology. Reagents are supplied in prefilled cartridges, which can be loaded into machine directly without extra work. Easy select program code number 104 in Magnesia 16 and combine using Magnesia 16 Genomic DNA Large Volume Whole Blood Kit can perform high quality genomic DNA.

Applications

For general laboratory use. Using magnetic-particle technology to purified genomic DNA from 1.2ml fresh whole blood. The purified genomic DNA can be directly used for downstream application like quantitative PCR, restriction enzyme digestion, southern bloting.

Running Time: 76 min (sample volume :1200 µl)

Preparation before using

1. Add 1.1ml PK Storage Buffer into the tube of Proteinase K and mix by vortex.

* Store prepared Proteinase K(10mg/ml) at -20^{0}C.

Protocol

1. Pipet Proteinase K 80 µl into the 1.5 ml sample tubes (provided).
2. Add 1200 µl whole blood into the sample tubes.
3. Placing the 1.5 ml sample tubes into the Magnesia/T-rack. Run Code. 104 program at Magnesia 16 .

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Magnesia 16 Cultured cells DNA Kit

For Genomic DNA purification from cultured cells by using Magnesia 16 of Anatolia Inc.

Cartridge Code 110

Cat.No.MCC-01 // MCC-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat.No. MCC-01 Contents:

Pre-filled Cartrige Reagent	*36 pcs.*
Pipet Tip	*36 pcs.*
Tip Holder	*36 pcs.*
Sample Tube	*36 pcs.*
Elution (Eppendorf) Tube	*36 pcs.*
Proteinase K (11mg)	*1pcs.*
PK Storage Buffer (1.25ml)	*1pcs.*

Cat.No. MCC-02 Contents:

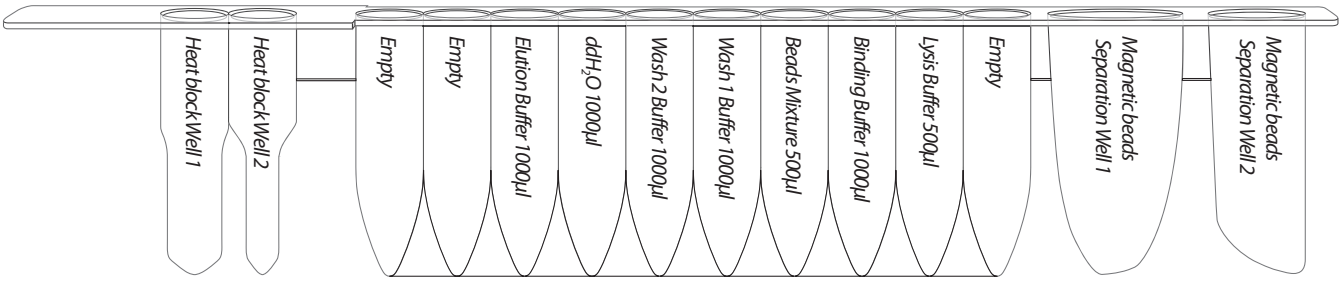
Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip	*100 pcs.*
Tip Holder	*100 pcs.*
Sample Tube	*100 pcs.*
Elution (Eppendorf) Tube	*100 pcs.*
Proteinase K (11mg)	*2pcs.*
PK Storage Buffer (1.25ml)	*2pcs.*

Storage and Stability :

(1) The kit should be stored at room temperature.

(2) Proteinase K should be stored at -20°C when mixing with PK Storage Buffer .

Cartrige Contents :



Description

Magnesia 16 Cultured cells DNA Kit is designed to extract genomic DNA from up to $5x10^6$ cultured cells via automatic machine, Magnesia 16. The kit contains all required reagent and labware for automated purification using magnetic-particle technology. Reagents are supplied in prefilled cartridges, which can be loaded into machine directly without extra work. Easy select program code number 110 in Magnesia 16 and combine using Magnesia 16 Cultured cells DNA Kit can perform high quality genomic DNA.

Applications

For general laboratory use. Using magnetic-particle technology to purified genomic DNA from $5x10^6$ cultured cells . The purified genomic DNA can be directly used for downstream application like quantitative PCR, restriction enzyme digestion, southern bloting.

Running Time: 44 min (sample volume: 200 ul, up to 5 x 10^6 cells)

Preparation before using

1. Add 1.1ml PK Storage Buffer into the tube of Proteinase K and mix by vortex
2. Ensure PBS buffer have been prepared for resuspend cell pellet..

* Store prepared Proteinase K(10mg/ml) at -20°C.

Protocol

Sample Preparation

A. Cells grown in suspension

Cells grown in suspension (up to 5 x 10^6 cells). Determine the number of cells. Centrifuge the appropriate number of cells for 5 min at 300 x g in a 1.5 ml microcentrifuge tube (not provided). Remove the supernatant completely and discard, Continue with machine application step 1.

B. Cells grown in a monolayer

Cells grown in a monolayer (up to 5 x 10^6 cells). Cells grown in a monolayer can be detached from the culture flask by either trypsinization or using a cell scraper.

To trypsinize cells:

Determine the number of cells. Aspirate the medium and wash cells with PBS (not provided). Aspirate the PBS, and add 0.10–0.25% trypsin. After cells have detached from the dish or flask, collect them in medium, and transfer the appropriate number of cells (up to 5 x 10^6 cells) to a 1.5 ml microcentrifuge tube (not provided). Centrifuge for 5 min at 300 x g. Remove the supernatant completely and discard, taking care not to disturb the cell pellet. Continue with machine application step 1.

Using a cell scraper:

Detach cells from the dish or flask. Transfer the appropriate number of cells (up to 5 x 10^6 cells) to a 1.5 ml microcentrifuge tube and centrifuge for 5 min at 300 x g. Remove the supernatant completely and discard, taking care not to disturb the cell pellet. Continue with machine application step 1.

Machine Application

1. Resuspend cell pellet with PBS Buffer to a final volume of 200 µl.
2. Transfer cell mixture 200 µl and add 20 µl Proteinase K into the 1.5 ml sample tubes (provided).
3. Placing the 1.5 ml sample tubes into the Magnesia/T-rack. Run Code. 110 program at Magnesia 16 .

Magnesia 16 Viral Nucleic Acid Extraction Kit

For extracting Viral DNA/RNA from serum, plasma, cell-free body fluids by using Magnesia 16 System of Anatolia Inc.

Cartridge Code 201

Cat.No.MVN400-01 // MVN-400-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat.No. MVN400-01 Contents:

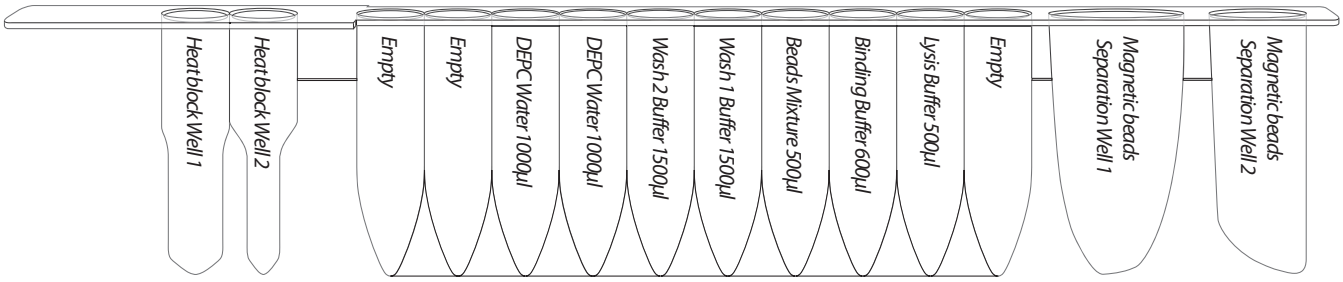
Pre-filled Cartrige Reagent	36 pcs.
Pipet Tip	36 pcs.
Tip Holder	36 pcs.
Sample Tube	36 pcs.
Elution (Eppendorf) Tube	36 pcs.
Carrier RNA (1mg)	1pcs.
RNase Free Water (1.25ml)	1pcs.
Proteinase K (11mg)	1pcs.
PK Storage Buffer (1.25ml)	1pcs.

Cat.No. MVN400-02 Contents:

Pre-filled Cartrige Reagent	96pcs.
Pipet Tip	100pcs.
Tip Holder	100pcs.
Sample Tube	100pcs.
Elution (Eppendorf) Tube	100pcs.
Carrier RNA (1mg)	1pcs.
RNase Free Water (1.25ml)	1pcs.
Proteinase K (11mg)	2pcs.
PK Storage Buffer (1.25ml)	2pcs.

Storage and Stability :
This kit should be stored at room temperature.

Cartrige Contents :



Description

When it comes to automated viral extraction, the Magnesia Viral Nucleic Acid Extraction kit and Magnesia 16 System should be your first choice. With all the kit components of plastic consumables are DNase/RNase-Free pretreated, and individual processing track for each loaded samples, this system eliminates all possible cross contamination between samples. Built-in protocol with flexibility in sample source volumes, both DNA, RNA and DNA/RNA virus can be extracted using the same kit in a fast and economical way.

Applications

For general laboratory use. The purified total nucleic acid is suitable for highly sensitive and quantitative PCR. Magnesia Viral Nucleic Acid Extraction Kit has been performed and proved with

HBV, HCV, HIV and influenza viruses as downstream applications.

Running Time: **45 min** (sample volume :200 µl) // **56 min** (sample volume :400 µl)

Preparation before using

1. Add 1.0 ml RNase Free Water to the Carrier RNA tube and mix by vortexing.
   Store prepared Carrier RNA (1mg/ml) at -20°C.
2. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing.
   Store prepared Proteinase K (10mg/ml) at 4°C.

Protocol

1. Pipet 5 µl (for 200 µl sample) or 10 µl (for 400 µl sample) Carrier RNA (1mg/ml) into the sample tube, and add Proteinase K 10 µl (for 200 µl sample) or 20 µl (for 400 µl sample) into the 1.5 ml sample tubes (provided).
2. Add 200 µl or 400 µl of serum into the sample tubes.
1. Placing the 1.5 ml sample tubes into the MagCore/T-rack. Run Code. 201 program at Magnesia 16 .

Magnesia 16 Viral Nucleic Acid Extraction Kit

For extracting Viral DNA/RNA from serum, plasma, cell-free body fluids by using Magnesia 16 System of Anatolia Inc.

Cartridge Code 202

Cat.No.MVN400-03 // MVN-400-04

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat.No. MVN400-03Contents:

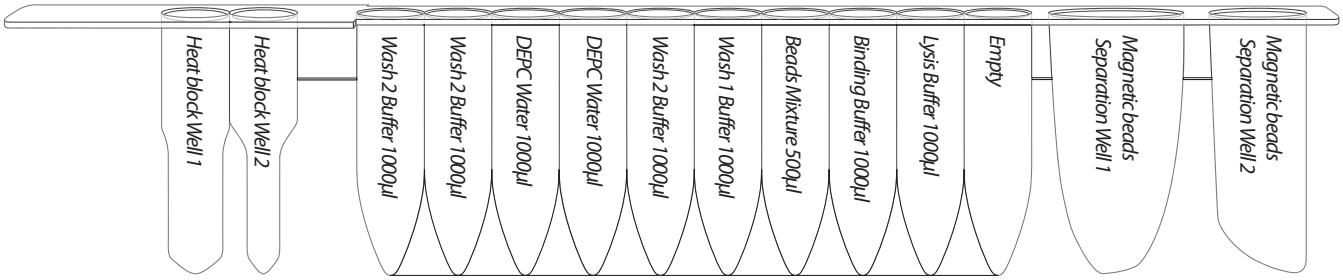
Pre-filled Cartrige Reagent	*36 pcs.*
Pipet Tip	*36 pcs.*
Tip Holder	*36 pcs.*
Sample Tube	*36 pcs.*
Elution (Eppendorf) Tube	*36 pcs.*
Carrier RNA (1mg)	*1pcs.*
RNase Free Water (1.25ml)	*1pcs.*
Proteinase K (11mg)	*1pcs.*
PK Storage Buffer (1.25ml)	*1pcs.*

Cat.No. MVN400-04 Contents:

Pre-filled Cartrige Reagent	*96pcs.*
Pipet Tip	*100pcs.*
Tip Holder	*100pcs.*
Sample Tube	*100pcs.*
Elution (Eppendorf) Tube	*100pcs.*
Carrier RNA (1mg)	*1pcs.*
RNase Free Water (1.25ml)	*1pcs.*
Proteinase K (11mg)	*2pcs.*
PK Storage Buffer (1.25ml)	*2pcs.*

Storage and Stability :
This kit should be stored at room temperature.

Cartrige Contents :



Description

When it comes to automated viral extraction, the MagnesiaViral Nucleic Acid Extraction kit and Magnesia 16 System should be your first choice. With all the kit components of plastic consumables are DNase/RNase-Free pretreated, and individual processing track for each loaded samples, this system eliminates all possible cross contamination between samples. Built-in protocol with flexibility in sample source volumes, both DNA, RNA and DNA/RNA virus can be extracted using the same kit in a fast and economical way.

Applications

For general laboratory use. The purified total nucleic acid is suitable for highly sensitive and quantitative PCR. MagnesiaViral Nucleic Acid Extraction Kit has been performed and proved with

HBV, HCV, HIV and influenza viruses as downstream applications.

Running Time: **57 min** (sample volume :200 µl) // **66 min** (sample volume :400 µl)

Preparation before using

1. Add 1.0 ml RNase Free Water to the Carrier RNA tube and mix by vortexing.
   Store prepared Carrier RNA (1mg/ml) at -20°C.
2. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing.
   Store prepared Proteinase K (10mg/ml) at 4°C. For long term storage , aliquot and store at -20°C.

Protocol

1. Pipet 10 µl (for 200 µl sample) or 20 µl (for 400 µl sample) Carrier RNA (1mg/ml) into the sample tube, and add Proteinase K 20 µl (for 200 µl sample) or 40 µl (for 400 µl sample) into the 1.5 ml sample tubes (provided).
2. Add 200 µl or 400 µl of serum into the sample tubes.
3. Placing the 1.5 ml sample tubes into the MagCore/T-rack. Run Code. 202 program at Magnesia 16 .

Magnesia 16 Genomic DNA Tissue Kit

For extracting Genomic DNA from a variety animal tissues, paraffin-embedded tissue, swab and blood stain by using Magnesia 16 System of Anatolia Inc.

Cartridge Code 401

Cat.No.MGT-01 // MGT-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat.No. MGT-01 Contents:

Pre-filled Cartrige Reagent	36 pcs.
Pipet Tip	36 pcs.
Tip Holder	36 pcs.
Sample Tube	36 pcs.
Elution (Eppendorf) Tube	36 pcs.
GT Buffer (30ml)	1pcs.
Filter Column	36pcs.
Proteinase K (11mg)	1pcs.
PK Storage Buffer (1.25ml)	1pcs.

Cat.No. MGT-02 Contents:

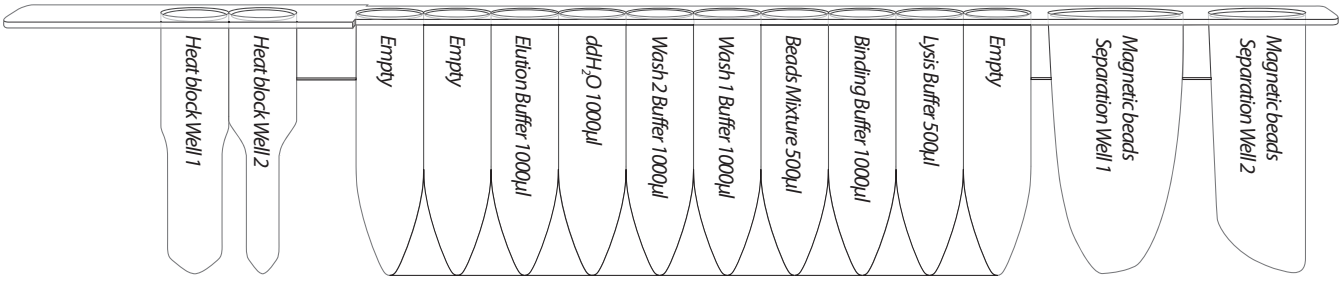
Pre-filled Cartrige Reagent	96 pcs.
Pipet Tip	100 pcs.
Tip Holder	100 pcs.
Sample Tube	100 pcs.
Elution (Eppendorf) Tube	100 pcs.
GT Buffer (30ml)	2pcs.
Filter Column	100 pcs.
Proteinase K (11mg)	2pcs.
PK Storage Buffer (1.25ml)	2pcs.

Storage and Stability :

(1) The kit should be stored at room temperature.

(2) Proteinase K should be stored at -20^{0}C when mixing with PK Storage Buffer.

Cartrige Contents :



Description

Magnesia 16 Genomic DNA Tissue Kit has been designed for purification of total DNA (including genomic, mitochondrial and viral DNA) from a variety of animal tissues or cells by using automated instrument of Magnesia 16. The provided Filter Column Set can filtrate hard tissue sample or swab sample to prevent tissue residues to obstruct pipette syringe during the process of Magnesia 16 . The method uses pre-filled cartridge contains proteinase K and a chaotropic salt, guanidine hydrochloride to lysis cells and degrade protein. DNA in chaotropic salt binds to cellulose coated magnetic beads . After washing off the contaminants, the purified DNA is eluted by low salt elution buffer or water. Purified DNA of approximately 20-30 kb in length is suitable for PCR or other enzymatic reactions.

Applications

Animal tissues, paraffin embedded tissue, swab and blood stain.

Running Time: 33 min (sample volume :400 µl)

Preparation before using

1. Add 1.1ml PK Storage Buffer into the tube of Proteinase K and mix by vortex.

* Store prepared Proteinase K(10mg/ml) at -20^{0}C.

For Paraffin-Embedded Tissue

Preparation before using

Additional Requirments: Xylene, Microcentrifuge Tube.

1. Slice small section (5-10µm) of paraffin-embedded tissue and transfer to a microcentrifuge tube.
   * Discard the first 2-3 sections, if the surface of paraffin sample has been exposed to air.
2. Add 1ml xylene to the tube and votex vigorously for 10sec. Then Incubate at 60ºC for 10min.
3. Centrifuge at full speed for 3min at room temperature.
4. Remove the supernatant carefully by pipetting, then add 1ml ethanol (96-100%) to the pellet and mix by vortexing for 10sec.
5. Centrifuge at full speed for 5min at room temperature.
6. Remove the supernatant carefully by pipetting, then add again of 1ml ethanol (96-100%) to the pellet and mix by vortexing for 10sec to wash again. Then centrifuge at full speed for 5min.
7. Remove residual ethanol with a fine pipette tip, then open the tube and incubate at 55ºC for 5min until all residual ethanol has evaporated.
8. To Lysis Step.

For Swab Tissue

Preparation before using

Additional Requirments: PBS, Microcentrifuge Tube.

1. Separate the swab cotton form the stick. Place the swab into a 2ml microcentrifuge tube (Not Provided) and add 500µl GT Buffer.
   * For Buccal Swab sample, donor should not ingest anything for at least 30min prior to sample collection.
2. To Lysis Step 2.

Lysis Step (For Solid Animal Tissue, starts from this step)

1. Add 400µl the provided GT Buffer and 20µl Proteinase K (10mg/ml) to the tube and mix by votexing.
   * Before Initial Use: Add 1ml PK Storage Buffer to Proteinase K Tube (11mg), and stor at 4^{0}C.
2. Incubate at 56^{0}C for 90min until the sample has been completely lysed.
3. Incubate the sample lysate at 90^{0}C for 30min.
4. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column Set and centrifuge at full speed for 5min to get clear tissue solution in the Collection Tube.
5. Pipette 400µl of clear tissue solution to Sample Tube, then put Sample Tube to Hole 4 of T-Rack.

Optional Step: RNA Degradation

If RNA-Free genomic DNA is required, perform this optional step.

1. Add 4µl RNase A (50mg/ml) into the sample lysate.
2. Incubate the sample at room temperature for 20min.

Magnesia 16 Genomic DNA Bacterial Kit

For purification of genomic DNA from Bacterial by using Magnesia 16 of Anatolia Inc.

Cartridge Code 502

Cat.No.MBB-01 // MBB-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat.No. MBB-01 Contents:

Pre-filled Cartrige Reagent	36 pcs.
Pipet Tip	36 pcs.
Tip Holder	36 pcs.
Sample Tube	36 pcs.
Elution (Eppendorf) Tube	36 pcs.
Lysozyme Reaction Buffer (15ml)	1pcs.
Proteinase K(11mg)	2 pcs.
PK Storage Buffer	2 pcs.
* RNase A (50mg/ml, 160µl)	1pcs.

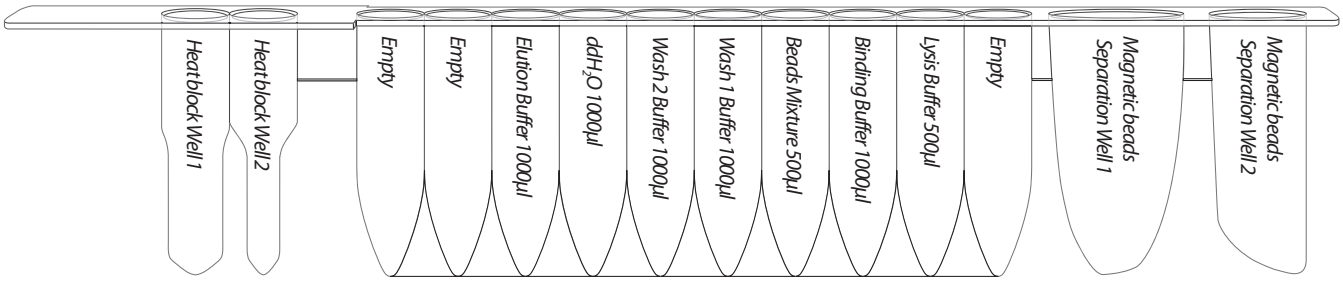
Cat.No. MBB-02 Contents:

Pre-filled Cartrige Reagent	96 pcs.
Pipet Tip	100 pcs.
Tip Holder	100 pcs.
Sample Tube	100 pcs.
Elution (Eppendorf) Tube	100 pcs.
Lysozyme Reaction Buffer (30ml)	1pcs.
Proteinase K(11mg)	4 pcs.
PK Storage Buffer(1.25ml)	4 pcs.
* RNase A (50mg/ml, 400µl)	1pcs.

Storage and Stability :

(1) The kit should be stored at room temperature.
(2) Proteinase K should be stored at -20^{0}C when mixing with PK Storage Buffer.
*(3) * Store RNaseA solution at 4^{0}C when kit arrived for long term storage.*

Cartrige Contents:



Description

Magnesia 16 Genomic DNA Bacterial kit is designed to extract genomic DNA from both Gram+ and Gram- bacteria via automatic machine, Magnesia 16. The kit contains all required reagent and labware for automated purification using magnetic-particle technology. Reagents are supplied in prefilled cartridges, which can be loaded into machine directly without extra work. Easy select program code number 502 in Magnesia 16 and combine using Magnesia 16 Genomic DNA Bacterial Kit can perform high quality genomic DNA.

Applications

For general laboratory use. Using magnetic-particle technology to purified genomic DNA from both Gram+ and Gram- bacteria. The purified genomic DNA can be directly used for downstream application like quantitative PCR, restriction enzyme digestion, southern bloting.

Running Time: 44min (sample volume :200 µl)

Preparation before using

1. Add 1.1ml PK Storage Buffer into the tube of Proteinase K and mix by vortex.

   * Store prepared Proteinase K(10mg/ml) at -20^{0}C.

2. Immediately prepared 20mg/ml Lysozyme solution with Lysozy me Reaction Buffer before use.

Protocol

1. Harvest cells (maximum 2 x 10^9 cells) in a microcentrifuge tube for 3min at 5000 x g (8000rpm). Discard supernatant.
2. Vortex the cell pellet then resuspend bacterial pellet in 200µl Lysozyme solution by vortexing or pipetting. Incubate for at least 30min at 37^{0}C. During incubation, vortex the tube every 5min.
3. Add 4ul RNAse a (50mg/ml) to sample mixture (including any precipitate) then to sample mixture and vortex to mix sample. Incubate at room temperature for 10min.
4. Resuspend sample mixture by pipetting. Then adding 40µl proteinase K (10mg/ml) to sample mixture and vortex to mix sample. Run Code. 502 program at Magnesia 16 .

Magnesia 16 Total RNA Whole Blood Kit

For total RNA purification from white blood cells of human whole blood by using Magnesia 16 of Anatolia Inc.

Cartridge Code 601

Cat.No.MRN-01 // MRN-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat.No. MRN-01 Contents:

Pre-filled Cartrige Reagent	36 pcs.
Pipet Tip	36 pcs.
Tip Holder	36 pcs.
Sample Tube	36 pcs.
Elution (Eppendorf) Tube	36 pcs.
Anatolia Lysis Buffer	100ml.
RB Buffer	15ml.

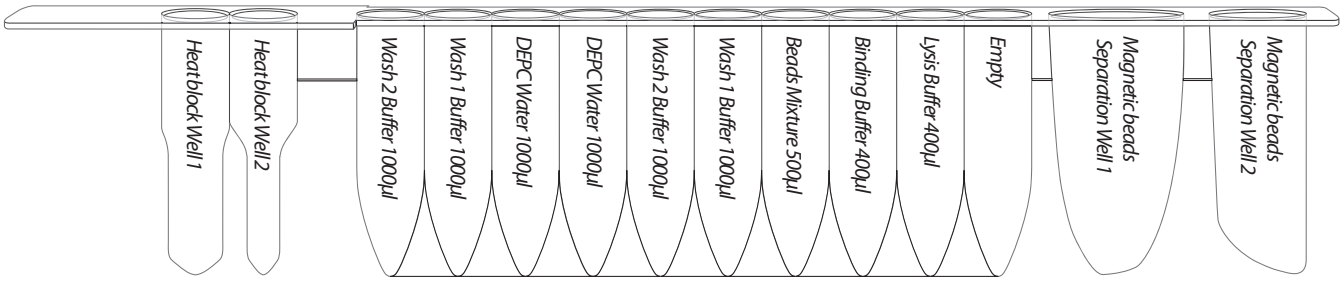
Cat.No. MRN-02 Contents:

Pre-filled Cartrige Reagent	100pcs.
Pipet Tip	100pcs.
Tip Holder	100pcs.
Sample Tube	100pcs.
Elution (Eppendorf) Tube	100pcs.
Anatolia Lysis Buffer	200ml.
RB Buffer	30ml.

Storage and Stability :

(1) The kit should be stored at room temperature .

Cartrige Contents:



Description

Magnesia 16 Total RNA Whole Blood Kit is specially designed for total RNA purification from up to 0.4ml human whole blood by using automated instrument of Magnesia 16. The program provides optional protocol for contaminated genomic DNA remove. Combine Anatolia high quality RNase-free DNase I with Magnesiatotal RNA Whole Blood Kit can provide high quality DNA-free total RNA, you can get high sensitivity result for downstream application like qRT-PCR.

Applications

For general laboratory use. Using magnetic-particle technology to purified total RNA.

The purified RNA can be directly used for downstream application like real-time PCR, RT-PCR, cDNA synthesis.

Running Time: 42min (without DNase I treatment ; starting volume: 200 µl)
68min (with DNase I treatment ; starting volume: 200 µl)

Preparation before using

1. β-Mercaptoethanol (β-ME; not provided) must be added to RB Buffer before use. Add 10µl of β-ME per 1 ml of RB Buffer.
2. **Recommended Step: DNA residue degradation.** Prepare DNase I (RNase-free) working solution according to the table below. Add 15µl DNase I with 185µl DNase reaction buffer (1X)(15 units DNase per sample) in the DNase tube, and place the DNase tube into hole 3 of T-Rack.

Healthy Whole blood (µl)	DNase I (µl)	DNase buffer 1X (µl)
Up to 400	15	185

3. RNase-free DNase I is not including in Magnesiatotal RNA Whole Blood Kit, we recommend to use Anatolia RNase-free DNase I (cat. DN36 or cat. DN96) for genomic DNA treatment. For product information, please contact Anatolia Inc. distributor. We also recommend to use RNase-free DNase I enzyme(1U/ul) of Novagen (Cat.69182-3). Please contact local Merck branch office or distributor for product information. And follow the contents below for buffer preparation.

1X DNase I reaction buffer

20 mM Tris, pH8.4

2 mM MgCl2

50 mM KCl

DEPC water, autoclave

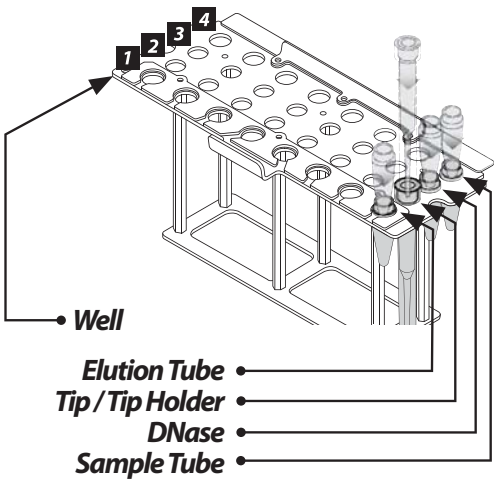
Fresh Whole Blood Protocol

Without DNase I treatment

1. Add 1 volume of human whole blood with 3 volumes of Anatolia lysis Buffer in an appropriately sized tube (not provided) and mix by inversion. Do not vortex.(For example, add 1.2 ml of Anatolia lysis Buffer to 400ul of whole blood.)
2. Incubate the tube for 10 minutes on ice and invert 2~3 times during incubation
3. Centrifuge for 3 minutes at 500 x g (2,500rpm) at 4°C and completely discard the supernatant.
4. Add 500ul Anatolia lysis Bu_er to the cell pellet. Resuspend cells by vortex briefly.
5. Centrifuge for 3 minutes at 500 x g (2,500rpm) at 4 °C and completely discard the supernatant.
6. Add 200µl RB buffer (containβ-ME) to the white pellet and mix by vortexing.
7. Follow Magnesia 16 process to apply the prepared sample (200µl volume).

With DNase I treatment

1. Follow step 1~6 of without DNase I treatnent protocol to prepane with Blood cell sample.
2. Be sure to place the DNase I tube into the well 3 of T-Rack (option) and Follow Magnesia 16 process to apply the prepared sample (200µl volume).



Running Time List

Cat. number	Product	Package	Code No.	Running Time
MGB400-01	Magnesia 16 Genomic DNA Whole Blood Kit (Speedy Installation)	36	101	44 min (sample volume :200 µl) 57 min (sample volume :400 µl)
MGB400-02		96		
MGB400-03	Magnesia 16 Genomic DNA Whole Blood Kit	36	102	44 min (sample volume :200 µl) 55 min (sample volume :400 µl)
MGB400-04		96		
MGB1200	Magnesia 16 Genomic DNA Large Volume Whole Blood Kit	96	104	76 min (sample volume :1200 µl)
MCC-01	Magnesia 16 Cultured cells DNA Kit	36	110	44 min (sample volume: 200 µl, up to 5 x 10^6 cells)
MCC-02		96		
MVN400-01	Magnesia 16 Viral Nucleic Acid Extraction Kit	36	201	45 min (sample volume :200 µl) 56 min (sample volume :400 µl)
MVN400-02		96		
MVN400-03	Magnesia 16 Viral Nucleic Acid Extraction Kit	36	202	57 min (sample volume :200 µl) 66 min (sample volume :400 µl)
MVN400-04		96		
MGT-01	Magnesia 16 Genomic DNA Tissue Kit	36	401	33 min (sample volume :400 µl)
MGT-02		96		
MBB-01	Magnesia 16 Genomic DNA Bacterial Kit	36	502	44 min (sample volume :200 µl)
MBB-02		96		
MRN-01	Magnesia 16 Total RNA Whole Blood Kit	36	601	42min (without DNase 1 treatment) 68min (with DNase 1 treatment)
MRN-02		96		

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